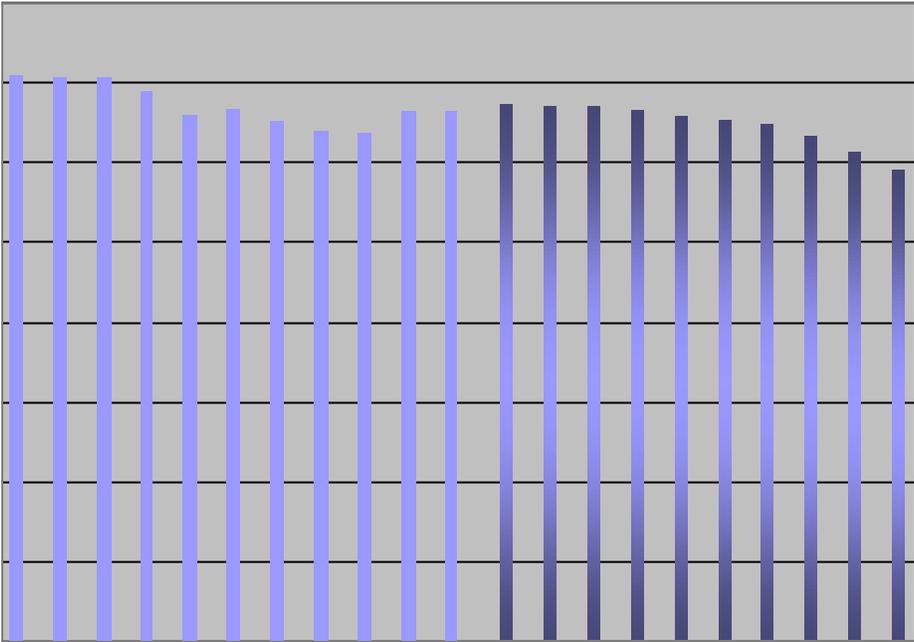


MANSFIELD PUBLIC SCHOOLS ENROLLMENT PROJECTED TO 2021



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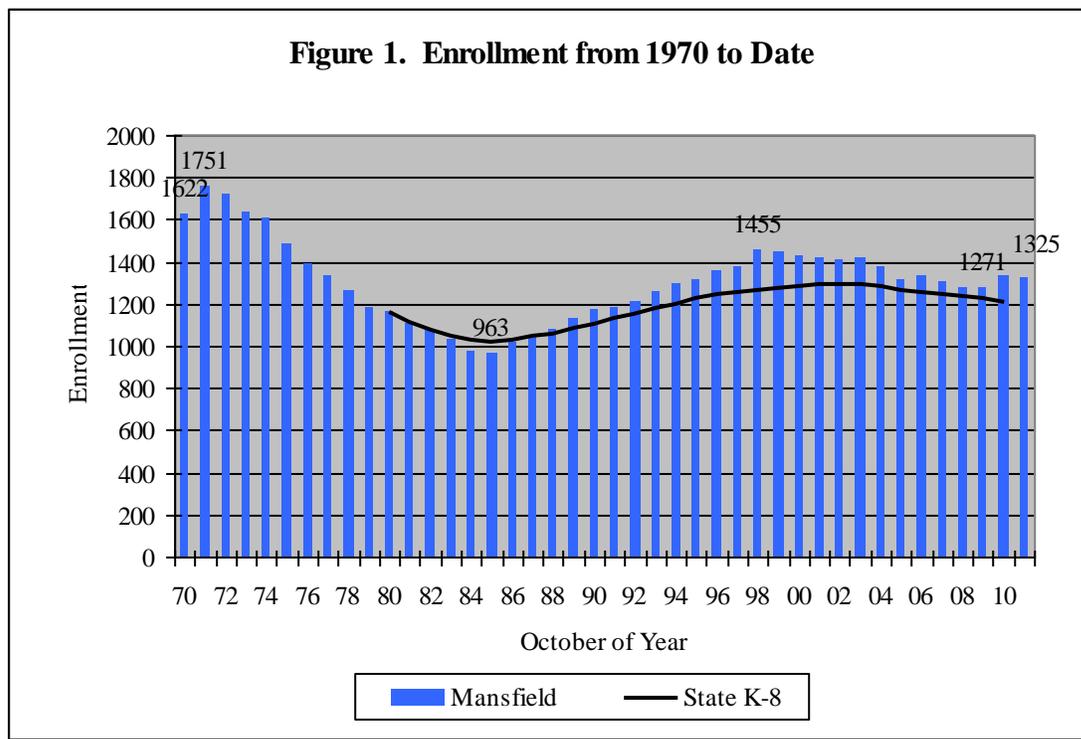
Introduction

This report is a ten-year projection of enrollment for the Mansfield Public Schools. It is based on students attending the Mansfield Public Schools in October of the school year. The projection is divided into the two grade levels that represent how the Mansfield schools are organized: PK-4 and 5-8. The report includes 41 years of enrollment to place the projection into a wider historical perspective. One of the primary drivers of future enrollment is births to residents. The report examines births and their relationship to kindergarten enrollment. Several factors that influence school enrollment - town population, women of child-bearing age, the labor force, housing, non-public enrollment and migration - are presented. Finally, the accuracy of earlier projections is examined.

Enrollment projections are a valuable planning tool. For budgeting the numbers can place requested expenditures into a per pupil context. This can inform the public about which expenditures represent continuing expenditures to support on-going programs and expenditures for school improvement and program expansion. They are an essential step in determining the staffing that will be needed in the future. This may facilitate the transfer of teachers from one grade to another or allow the hiring process to start earlier, which can increase the likelihood of attracting the best teachers in the marketplace. Projections are a critical and required step in planning for school facilities. The State of Connecticut requires eight-year projections by school as a critical component of determining the size of the project for which reimbursement is eligible. In some communities the projection can determine the number of places they can make available to urban students as part of a regional desegregation effort.

Perspective

Enrollment projections typically use the most recent five years of data. While the most recent past is viewed as the best predictor of the near future, it is informative to look at a broader perspective. Figure 1 shows the enrollment in Mansfield from 1970 to date.



Enrollment in the Mansfield Public Schools peaked at 1,751 students in 1971. Between then and 1985, enrollment fell to 963 students. In those 14 years, enrollment declined by 788 students or 45.0 percent. Between 1985 and 1999 enrollment grew by 492 students, or 51.1 percent, and reached a secondary peak of 1,455 students. The 2011 enrollment was 1,325 students, 130 students (8.9 percent) below the 1999 level.

Mansfield's enrollment pattern is fairly similar to that of the state's public schools in grades K-8. I have tracked public school K-8 enrollment since 1980. Public school K-8 enrollment bottomed in 1985, the same year as Mansfield. It reached a secondary peak in 2002. In those 17 years, state K-8 enrollment grew by 27.2 percent. Mansfield's period of growth was slightly shorter than the state's, but much more intense. The state's public school K-8 enrollment has been declining for eight years and it is expected to decline in 2011. Between 2002 and 2010 (the latest data available), it fell by 6.9 percent. Mansfield's downturn started three years before the state's. The second decline in Mansfield has been very slightly shallower than the state's. Had Mansfield followed the state pattern of enrollment since 1980, it would have had 1,206 students in October of 2010 instead of the 1,325 that were enrolled on that date.

Current Enrollment

Table 1 and Figure 2 provide a picture of where Mansfield residents in grades PK-8 attended school in October of 2010, the latest data available. They show that 97.1 percent of Mansfield's elementary school-age residents attended the Mansfield Public Schools in 2010. An estimated 2.1 percent of the school-age residents attended non-public schools in state. The number attending private schools out-of-state is not known. Other school-age residents attended magnet schools (0.1 percent) or public schools in other districts (0.2 percent). Six children (0.4 percent) were reported as being home schooled. There was one non-residents enrolled in the Mansfield Public Schools in 2010. The projections in this report are based off of the 1,325 residents and non-residents who attended the Mansfield Public Schools in October, 2011.

Table 1. 2010 Enrollment		
	Number	Percent
Residents		
A. Mansfield Public	1326	97.1%
B. Other Public	3	0.2%
C. Magnets	1	0.1%
D. Non-Public	29	2.1%
E. Home Schooled	6	0.4%
Total (A+B+C+D+E)	1365	
F. Non-Residents	1	
Total Enrollment (A+F)	1327	

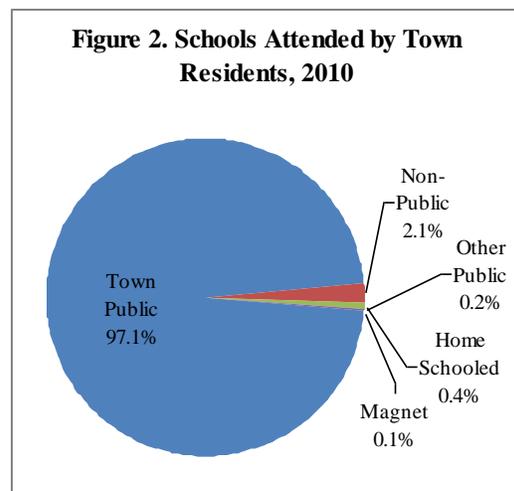
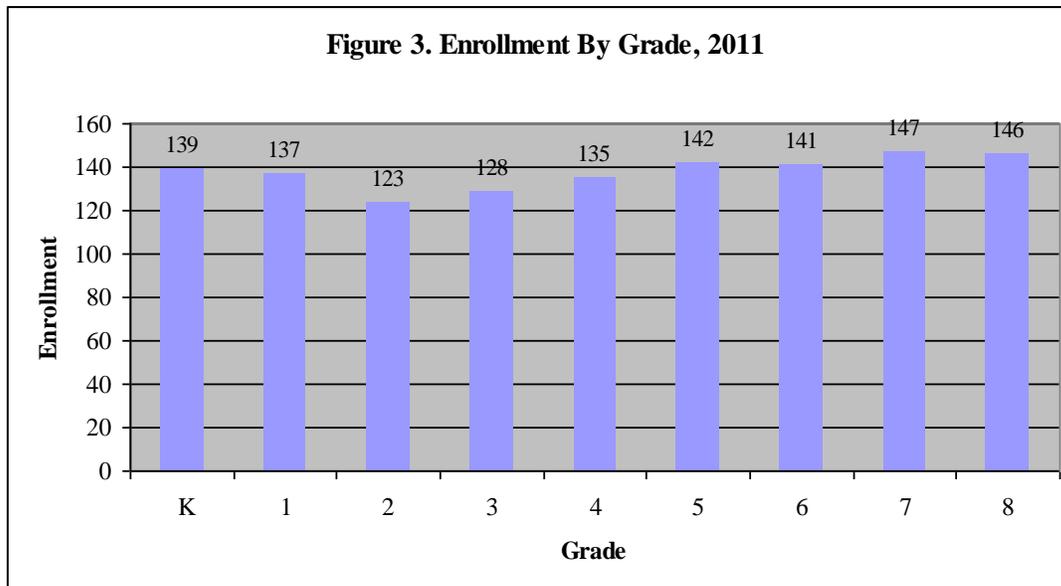


Figure 3 shows the October 2011 grade-by-grade enrollment of students in the Mansfield Public Schools. The children in pre-kindergarten programs are not shown. This year's kindergarten class is the largest since I began tracking enrollment in 1980. The introduction of full-day kindergarten in 2005 changed the enrollment pattern between kindergarten and Grade 1. Grades 7 and 8 had the largest enrollment with 147 and 146 students, respectively. Grades 5 and 6 each had more than 140 students enrolled. Grade 2 was the smallest class with 123 students followed by Grade 3 with 128 students. If current conditions continue, this year's Kindergarten class of 139 students will have 163 students when it enters Grade 5 in 2016. That is well above the current enrollment for that grade. The current year enrollment by grade is the starting point for this projection. How it moves forward is discussed below.



Projection Method

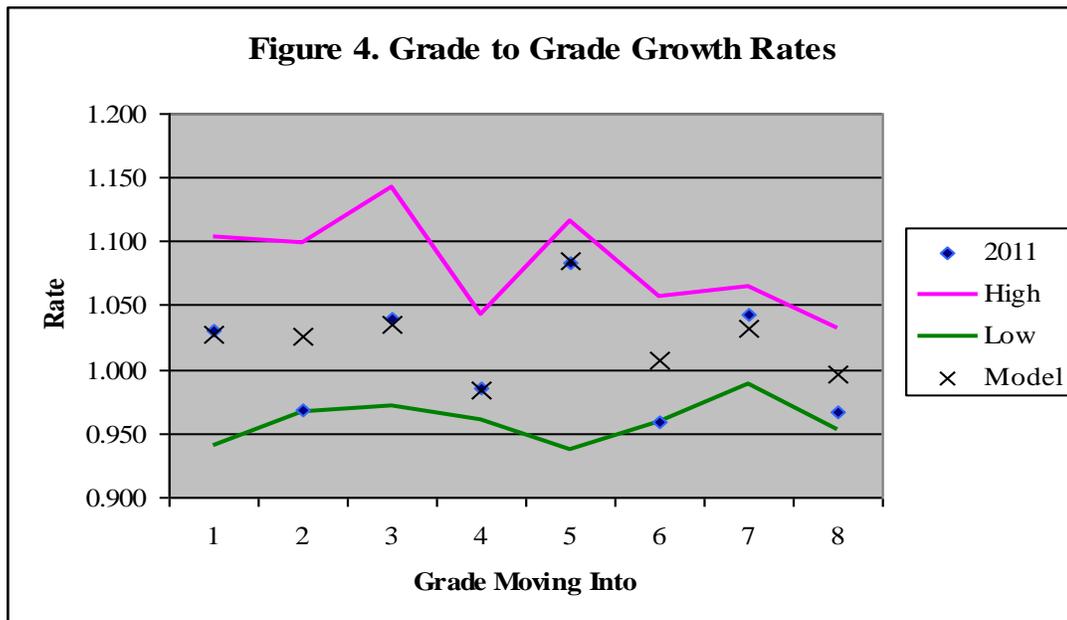
The projections in this report were generated using the cohort survival method. This is the standard method used by people running enrollment projections. For the grades above kindergarten, I compute grade-to-grade growth rates for ten years (see Appendix B). For example, if the number of fifth graders this year is 152 and the number of fourth graders last year was 150, then the growth rate is 1.013. A growth rate above 1.000 indicates that students moved in, transferred from a non-public school or they were retained. A growth rate below 1.000 means that students moved out, transferred or were not promoted from the prior grade. For each grade I calculate four different averages of the annual growth rates: a ten-year median, a 3-year average, a five-year average and a weighted five year average. I choose the average that seems to best fit the data. The average growth rate for a grade is applied to the current enrollment from the prior grade. The projection builds grade by grade and year by year.

In the standard model, kindergarten enrollment is compared to births five years prior and some average of the observed growth or decline is used to project future kindergarten enrollment. My method breaks kindergarten enrollment into three parts: five-year olds, six-year olds entering kindergarten for the first time, and six-year old repeaters. Each component is analyzed separately and then combined to get total projected kindergarten. Kindergarten enrollment is notoriously difficult to predict. I feel that this component model can improve the predictability slightly. For the past two years, the birth- to-kindergarten growth components were high. I used the rates observed in 2011 for 2012 and then phased into the five-year weighted averages by 2015.

To extend the projection beyond four years, I need to estimate births. The State Department of Public Health recorded 94 births in 2009. To estimate births in 2010, I used the 92 recorded births in state. Mansfield had no out-of-state births between 2007 and 2009. In 2011, there were 67 in-state births recorded through September compared to 71 for the same period in 2010. From this I estimated there would be 88 births in 2011. I utilized the Connecticut State Data Center's projection of children ages 0-4 in 2010, 2015 and 2020 to estimate births in 2012 to 2016. I calculated the projected growth in the interval, annualized it and applied it to the two year running average of births in Mansfield in the appropriate years.

Figure 4 gives a perspective of the grade-to-grade growth rates for students attending the Mansfield schools. An "x" indicates the average growth rate used in this projection. The diamond is the growth observed between last year and this year. The upper line indicates the largest growth rate observed over the past ten years and the lower line, the lowest. In Grade 1 I used the last six years of history for the high and low to reflect the change in enrollment pattern caused by the introduction of full-day kindergarten. In general, the narrower the gap between the two lines is, the greater the accuracy of the projection. The growth rates used in the projection were based on a five-year weighted average of the observed grade-to-grade growth.

The model growth rates are all over the map compared to the ten-year range. Grades 1,2,3,6 and 8 are in the middle of the range. Grades 5 and 7 are toward the upper end and Grade 4 is toward the lower end. Six of the growth rates are above 1.00 indicating that children are moving into the Mansfield schools. Five of the model growth rates are close to the corresponding rate in 2011. In grades 2, 6 and 8 the model growth rates were well above the low rates observed in 2011.



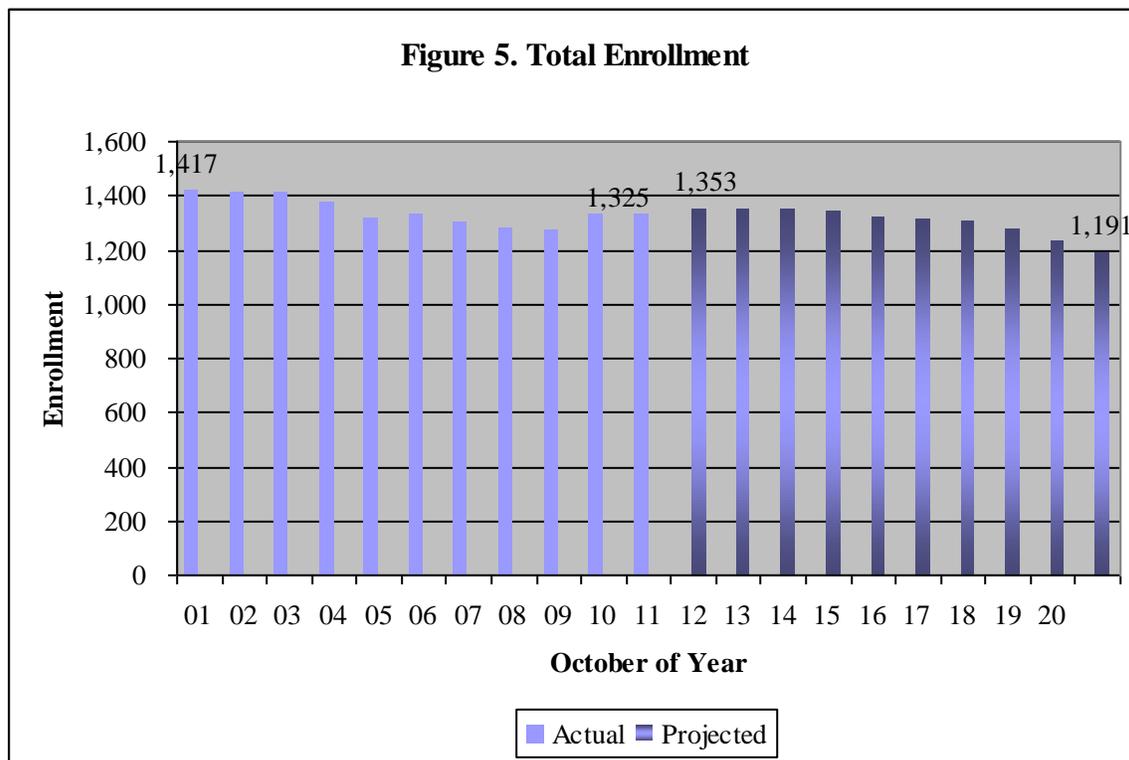
Enrollment data from 2001 to 2010 were taken from the files of the Connecticut State Department of Education. The public school data are available on the Department's website at www.sde.ct.gov under the Grants Management section. Data for 2011 were provided by the Mansfield central office. All enrollment data after 2008 are subject to minor changes as they are reviewed and audited. Births from 1980 to 2011 were provided by the Healthcare Quality, Statistics, Analysis and Reporting Unit of the State Department of Public Health.

Total Enrollment

Table 2 and Figure 5 present the observed total enrollment in Mansfield from 2001 to 2011 and projected enrollment through 2021. Detailed grade-by-grade data may be found in Appendix A. Between 2001 and 2009 enrollment declined from 1,417 to 1,271 students. By 2011 it had rebounded to 1,325 students. Between 2001 and 2011 there was a loss of 92 students or 6.5 percent. Statewide in that period, grade K-8 public school enrollment decreased by 7.5 percent. Mansfield's decline of 6.8 percent between 2000 and 2010 (the latest comparable data available) was steeper than most similar districts in the region. Enrollment grew by 18.1 percent in grades PK-8 in Ellington, 15.3 percent in Hebron (grades PK-6), 4.4 percent in Andover (grades PK-6) and 4.1 percent in grades PK-8 in Tolland. Enrollment declined by 2.7 percent in Pomfret, 17.2 percent in grades PK-8 in Bolton and 25.6 percent in Columbia.

I anticipate that enrollment will stay fairly level for the next four years. Next year, I anticipate that total enrollment will grow by 20-25 students. I believe that enrollment will resume its decline in 2016 and end up near 1,190 students by 2021. The last time the district enrollment was 134 students is 10.1 percent below the current enrollment. I have projected that K-8 enrollment statewide will be down 10.3 percent in that period. Your total enrollment should average about 1,305 students over the ten-year projection period. This compares to an average total enrollment of 1,335 students over the past ten years.

Year	Students	Percent Change
2001	1417	
2002	1410	-0.5%
2003	1412	0.1%
2004	1376	-2.5%
2005	1314	-4.5%
2006	1332	1.4%
2007	1302	-2.3%
2008	1278	-1.8%
2009	1271	-0.5%
2010	1327	4.4%
2011	1325	-0.2%
2012	1353	2.1%
2013	1352	-0.1%
2014	1351	-0.1%
2015	1342	-0.7%
2016	1323	-1.4%
2017	1316	-0.5%
2018	1306	-0.8%
2019	1276	-2.3%
2020	1235	-3.2%
2021	1191	-3.6%



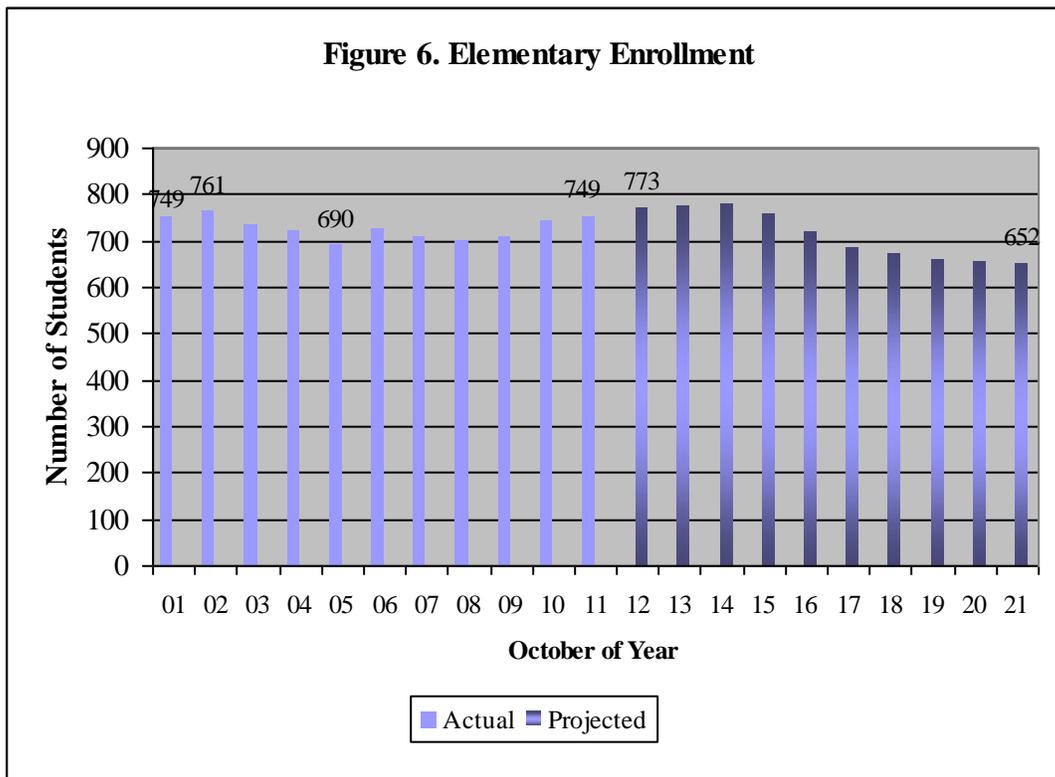
Elementary School Enrollment

Table 3 and Figure 6 present actual enrollment from 2001 to 2011 and projected enrollment through 2021 at the Mansfield's three elementary schools. In the past ten years, grade PK-4 enrollment ranged from a low of 690 students to a high of 761 students. It started and ended the period with 749 students. State public school enrollment in grades K-4 fell 8.3 percent in that interval.

I project that next year's enrollment at the schools will be 15 students more than this year's. I anticipate enrollment will peak at 770 students in 2014. By 2021, I expect the schools' enrollment be about 650 students. This will be about 100 students or 13.0 percent below the October 2011 count. Statewide, I have projected an 8.4 percent decrease in grade K-4 public school enrollment in that period. Over the ten-year projection period, I believe enrollment at your elementary schools will average 705 students. This is a little below the average of 724 students observed over the past ten years.

These figures include pre-kindergarten children. In the past ten years, pre-kindergarten enrollment ranged from 59 to 91 children. There were 87 children enrolled in these programs in 2011. Each of your three elementary schools has two pre-kindergarten classes with a target enrollment of 16 children each. My projection model sets pre-kindergarten enrollment constant at 96 children. Given the recent decline in births, this will allow a greater proportion of three- and four-year olds in the community to be served..

Year	Students	Percent Change
2001	749	
2002	761	1.6%
2003	735	-3.4%
2004	718	-2.3%
2005	690	-3.9%
2006	726	5.2%
2007	709	-2.3%
2008	698	-1.6%
2009	709	1.6%
2010	742	4.7%
2011	749	0.9%
2012	773	3.2%
2013	777	0.5%
2014	779	0.3%
2015	757	-2.8%
2016	722	-4.6%
2017	686	-5.0%
2018	673	-1.9%
2019	662	-1.6%
2020	655	-1.1%
2021	652	-0.5%

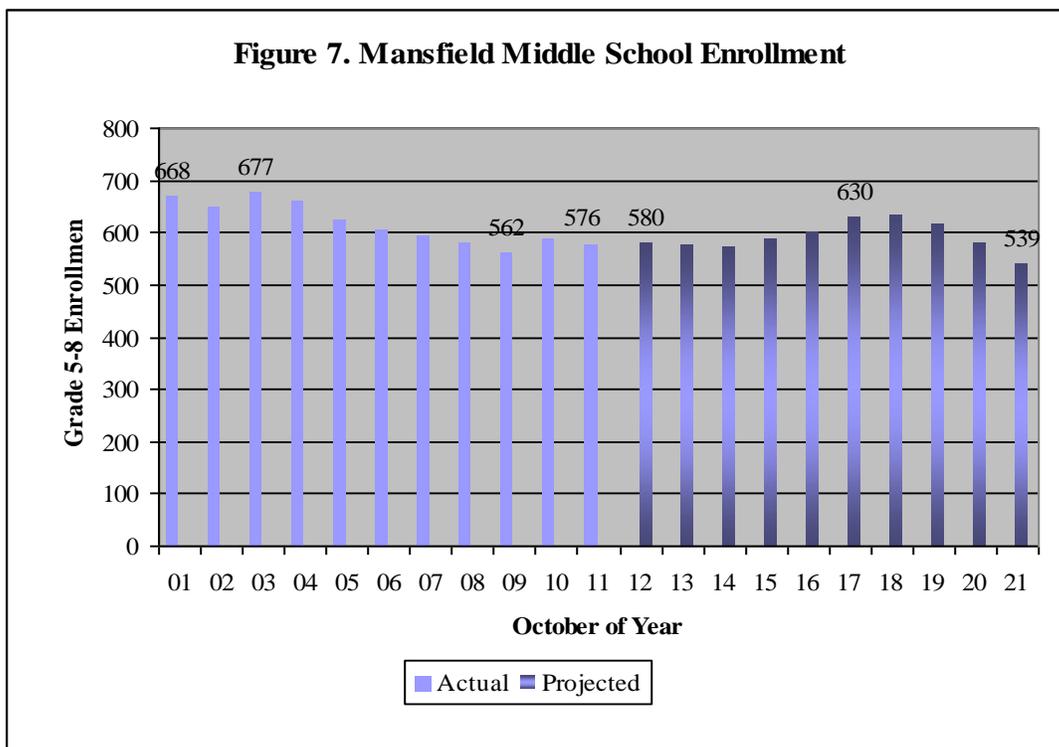


Mansfield Middle School Enrollment

Table 4 and Figure 7 present past enrollment from 2001 to 2011 and projected future enrollment to 2021 at the Mansfield Middle School. Over the past ten years enrollment ranged from a high of 677 students in 2003 to a low of 562 students in 2009. In 2011, the school's enrollment was 576 students. Between 2001 and 2011, enrollment declined by 92 students or 13.8 percent. Public school enrollment in grades 5-8 statewide decreased 6.5 percent between 2001 and 2011.

I believe that next year's enrollment at Mansfield Middle School enrollment will be about five students more than this year's. I project that enrollment will grow to almost 635 students in 2018, but then decline to about 540 students in 2021. The projected 2021 enrollment is 37 students below the current level, a decline of 6.4 percent. I project that public school enrollment in grades 5-8 statewide will decline by 12.5 percent in that period. Over the ten-year projection period, enrollment at the Mansfield Middle School is expected to average about 590 students. This is below the average of 611 students observed over the past ten years.

Year	Students	Percent Change
2001	668	
2002	649	-2.8%
2003	677	4.3%
2004	658	-2.8%
2005	624	-5.2%
2006	606	-2.9%
2007	593	-2.1%
2008	580	-2.2%
2009	562	-3.1%
2010	585	4.1%
2011	576	-1.5%
2012	580	0.7%
2013	575	-0.9%
2014	572	-0.5%
2015	585	2.3%
2016	601	2.7%
2017	630	4.8%
2018	633	0.5%
2019	614	-3.0%
2020	580	-5.5%
2021	539	-7.1%



Factors Affecting the Projection

The primary reasons for elementary enrollment change lie in the births and yield from the birth cohort. Figure 8 presents the births from 1980 to 2009 and preliminary, estimated and projected births through 2016. Births ranged from a low of 92 in 2008 to a high of 150 in 1988. There were 94 births in 2009. The preliminary count of births in 2010 is 92. Based on births through September of 2011, I estimate there will be only 88 births in 2011. In the 1990s there was an average of 116 births annually. In the five years from 2002 to 2006 (this fall's kindergarten through 4th graders) births averaged 108. Births in the 2007 through 2011 period will likely average 95. The projection in years 2017 to 2021 assumes an average of 87 births annually between 2012 and 2016. This is based in part upon the Connecticut State Data Center projection of Mansfield children ages 0-4.

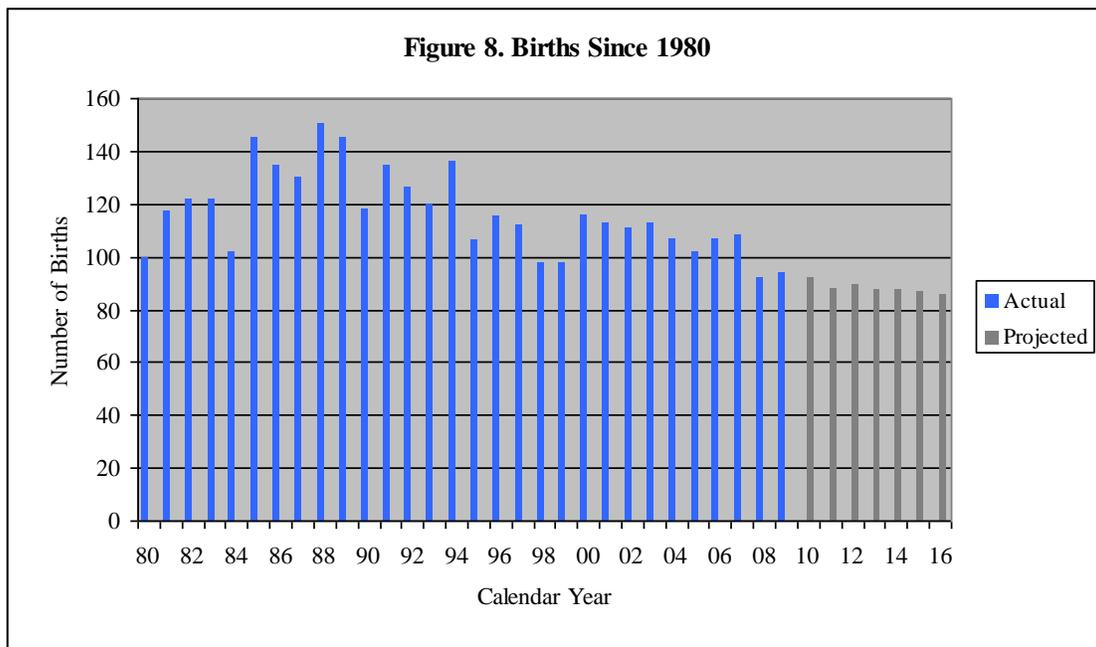
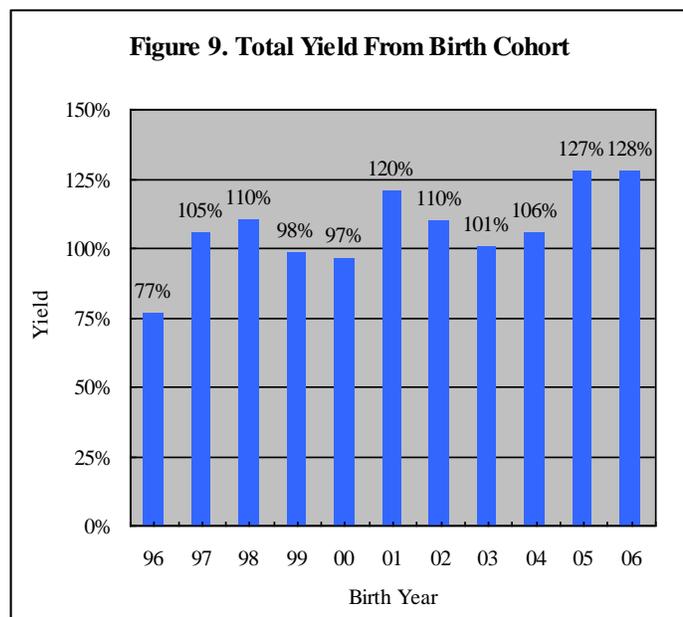


Figure 9 depicts the kindergarten yield five and six years later from the birth cohorts of 1996 to 2006 for Mansfield residents attending kindergarten in Mansfield. For example, there were 102 births in 2005 and 121 children enrolled in Mansfield kindergartens at age five in 2010 and an additional nine who first enrolled in kindergarten at age six in 2011. That is a yield of 127 percent. The yield from the birth cohort ranged from a low 77 percent in 1996 to a high of 127 percent in 1998. The estimated yield for births in 2006 is 128 percent. Note that 2006 yield is an estimate because we will not know the actual number of children who will enter kindergarten for the first time as six-year olds until October 2012. Yields above 100 percent generally mean that parents move



into town after giving birth elsewhere. Yields below 100 percent mean that families who gave birth as town residents left town or chose another school system for kindergarten. Full-day kindergarten was first available to some of the birth cohort of 2000 and became universal for the 2002 birth cohort. The average yield over the past five years was 118.5 percent along with a 2.0 percent retention rate.

Table 5 gives a history of enrollment in kindergarten since 2001 and relates the components of kindergarten enrollment back to the appropriate birth cohort. Retention is tied to the prior year's kindergarten enrollment. To estimate kindergarten enrollment, I started with the 2011 rates of retentions, and yields from births five and six years ago. I then moved incrementally to the weighted five year average of each of the three components by 2015. In 2012, I estimated kindergarten from 118.7 percent of births five years ago, 8.8 percent of births six years ago, and 2.3 percent of current Kindergarten students retained. In 2015 and beyond, I estimated kindergarten from 109.4 percent of births five years ago, 9.2 percent of births six years ago, and 2.0 percent of current Kindergarten students retained.

Table 5. Analysis of Kindergarten Enrollment													
Year	Birth Year	Births	K	Retained From Prior Year				Non-Resident Born 5-Years Prior	Non-Resident Born 6 Years Prior	Percent Retained	Yield From Births 5-Years Prior	Yield From Births 6-Years Prior	Total Yield From Birth Cohort
				Retained From Prior Year	Non-Resident Born 5-Years Prior	Non-Resident Born 6 Years Prior							
2001	1996	115	87	2	79	0	6	2.0%	68.7%	5.7%	76.5%		
2002	1997	112	122	0	113	0	9	0.0%	100.9%	7.8%	105.4%		
2003	1998	98	102	2	95	0	5	1.6%	96.9%	4.5%	110.2%		
2004	1999	98	97	0	84	0	13	0.0%	85.7%	13.3%	98.0%		
2005	2000	116	117	2	103	0	12	2.1%	88.8%	12.2%	96.6%		
2006	2001	113	133	1	123	0	9	0.9%	108.8%	7.8%	120.4%		
2007	2002	111	127	2	112	0	13	1.5%	100.9%	11.5%	109.9%		
2008	2003	113	117	3	104	0	10	2.4%	92.0%	9.0%	100.9%		
2009	2004	107	115	2	103	0	10	1.7%	96.3%	8.8%	105.6%		
2010	2005	102	133	2	121	0	10	1.7%	118.6%	9.3%	127.5%		
2011	2006	107	139	3	127	0	9	2.3%	118.7%	8.8%	127.9%		
3-Year Average									1.9%	111.1%	9.0%	120.3%	
Weighted 3-Year Average									2.0%	114.9%	9.0%	124.0%	
5-Year Average									1.9%	105.0%	9.5%	114.3%	
Weighted 5-Year Average									2.0%	109.4%	9.2%	118.5%	

The correlation between births and kindergarten enrollment five-year later from the past six years (when full-day kindergarten was available) was a very low 0.28. If this relationship were used to predict kindergarten enrollment, the estimate would have been off by an average of 7 children annually over the past ten years. The cohort survival method, even with my breakout into five-year olds, six-year old delayed entrants and children retained, cannot overcome the underlying unpredictability of kindergarten enrollment from earlier births.

Context of the Projection

The cohort-survival method needs only births and a few years of recent enrollment data to generate a projection. Mathematically, nothing else matters. But enrollment changes do not occur in a vacuum. Events and policies in the district, community and region all have some bearing on enrollment. Remember that a basic assumption of the cohort-survival method is that the recent past can be a good predictor of the near future. It is incumbent for every receiver of a projection to determine what events happened in the past five years and whether they are likely to change. Analyzing how the factors underlying the projection changed in the prior year can be an important step in this process.

To assist in this endeavor, this report examines seven factors that could affect enrollment: town population; women of child-bearing age; people in the labor market; new home construction; sales of existing homes; non-public enrollment and student migration.

Figure 10 presents the US Census Bureau estimate of Mansfield population since July of 2000. Between 2000 and 2009, the town population is estimated to have grown from 20,854 to 25,268 people. The estimated population growth of 21.2 percent ranked it 3rd in the state. The 2010 census population data show that from April 2000 to April 2010 Mansfield's population grew from 20,720 to 26,543 people. The 28.1 percent increase between 2000 and 2010 was the 2nd ranked in the state behind Oxford. All these figures include students in university facilities. Excluding people in group quarters such as dormitories, Mansfield's population grew 7.2 percent from 12,723 to 13,636 people. That growth was 61st in the state.

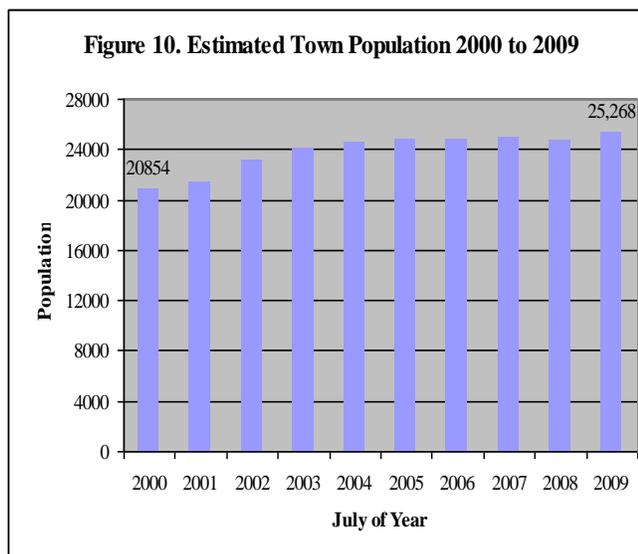


Figure 11 presents the number of women of child-bearing age from the 2000 and 2010 censuses. There were 116 births to Mansfield residents in 2000 and a preliminary count of 92 in 2010. In communities such as yours, women in the 30-34 age group have the highest rate of births. The number of women in this group fell from 407 in 2000 to 312 in 2010. The second highest birth rate in communities like yours is women ages 25-29. The number in that age range dipped from 378 in 2000 to 362 in 2010. The only age range that increased at all was 20-24. This age range typically has a relatively low birth rate in communities like yours. These figures exclude women in university housing.

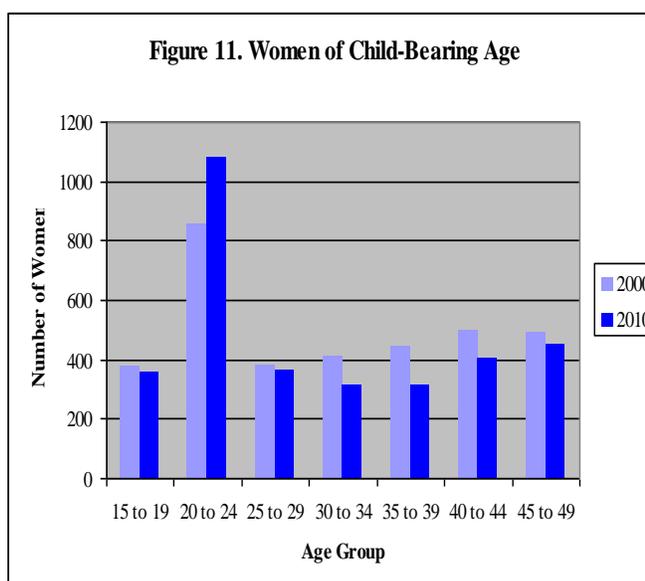


Figure 12 examines the number of people in the labor force from the US Department of Labor, Bureau of Labor Statistics. These are people 16 years of age or older working or actively seeking employment. Since it excludes most students and the elderly, I find it a very rough proxy of the number of school-age families. The Mansfield labor force increased 5.2 percent between 2006 and 2010. This was higher than the state (3.9 percent) and Tolland County (4.8 percent). The 2010 unemployment level of 7.6 percent was up 1.6 percentage points over 2009. The town rate is better than the state rate of 9.1 percent but worse than the Tolland County rate of 7.0 percent.

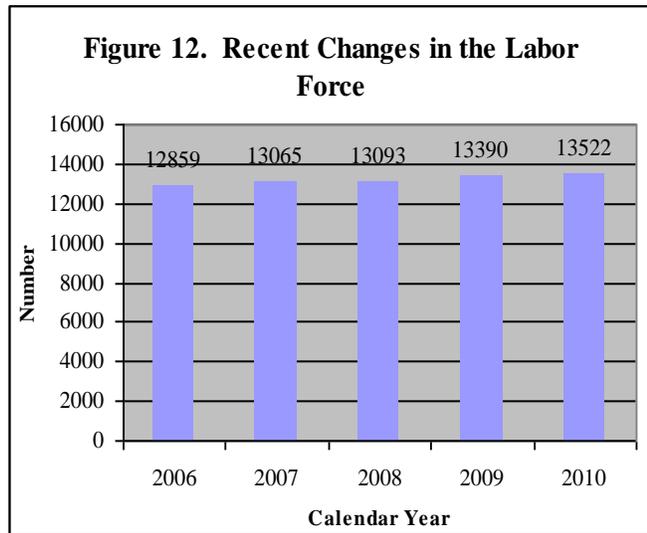


Figure 13 presents the net new housing units constructed from 2000 to 2010 from the State Department of Economic and Community Development. In the past ten years the number of net (of demolitions) new housing units constructed in Mansfield ranged from a high 71 in 2001 down to a low of 16 in 2008 and again in 2010. In the five-year look-back period for this projection, there was an average of 24 net new housing units constructed. The 2010 census indicated that Mansfield had 6,017 housing units of which 7.2 percent were unoccupied in April 2010.

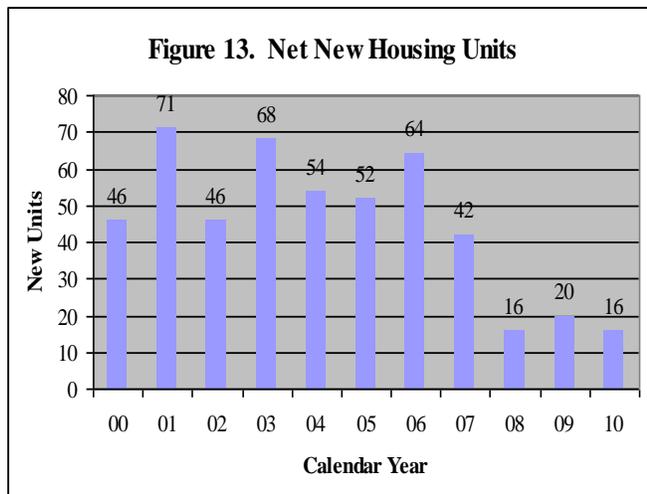


Figure 14 presents my estimate of the number of sales of existing homes. I derived it by taking the number of real estate transactions from The Warren Group/Commercial Record and subtracting the number of new single-family housing units authorized. This is an estimate because of the lag between the time a new house is authorized and it is sold. The estimated number of sales of existing homes ranged from a low of 144 in 2009 to a high of 236 in 2004. There were 147 existing houses sold in 2010. In the five-year look back period for the projection, there were 163 sales annually. Based on sales through July, I anticipate there will be about 130 sales of existing houses in 2011.

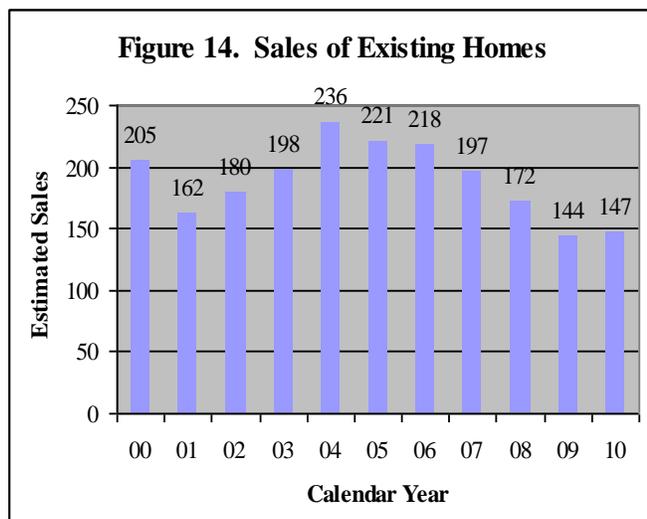


Figure 15 presents the non-public enrollment in grades PK-8 over the past ten years for students from the town of Mansfield. The data are from the records of the Connecticut State Department of Education. Non-public enrollment ranged from a high of 53 students in 2001 to a low of 28 students in 2009. There were 29 students enrolled in 2010. In the past ten years, enrollment in the non-public schools decreased by 20 students or 40.8 percent. The 2010 enrollment represented 2.1 percent of all PK-8 students from Mansfield. That is down from the 2001 peak of 3.6 percent. I expect the non-public enrollment from Mansfield will be the same or up very slightly in 2011.

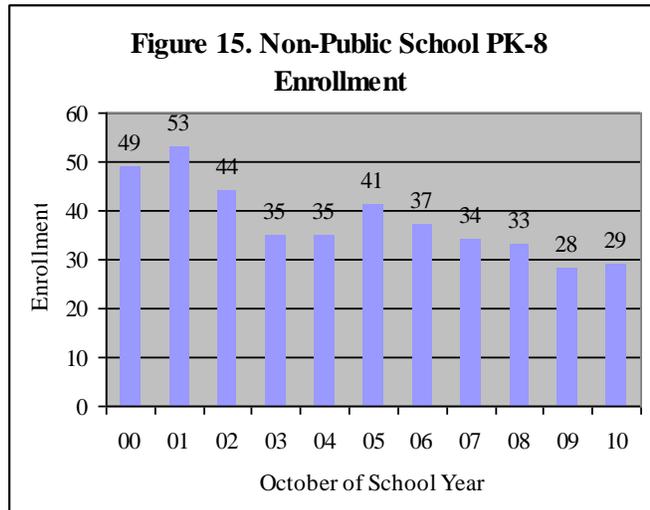
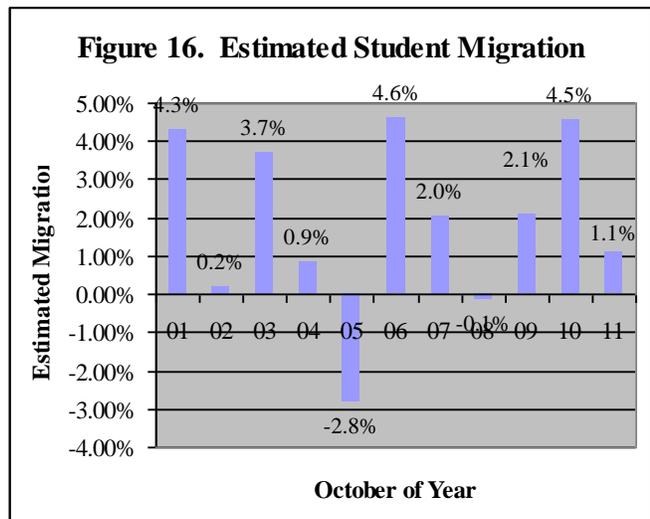


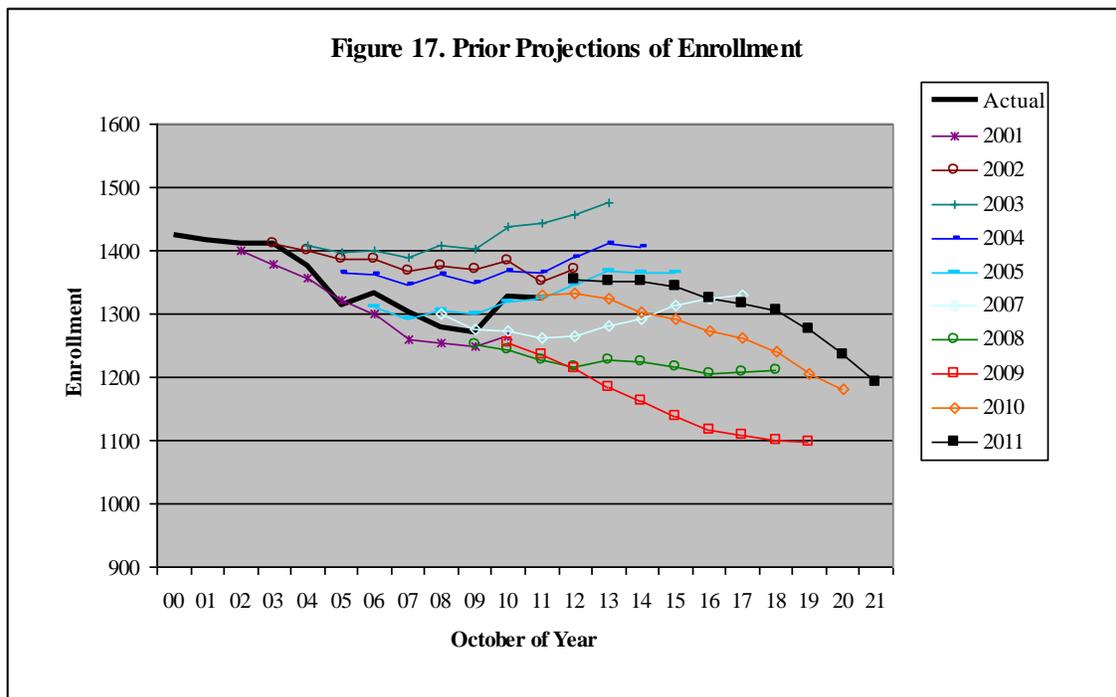
Figure 16 presents the estimated migration of students from Mansfield. Estimated migration ranged from a low of -2.8 percent in 2005 to a high of +4.6 percent in 2006. The rate between October, 2010 and October, 2011 was 1.1 percent. The data behind these figures may be found in Appendix B. The projection assumes an average in-migration of a robust 2.1 percent.



Prior Projections of Enrollment

The cohort-survival projection method works by moving forward the pattern of recent events that are subsumed within the grade-by-grade enrollment. This works very well when communities are stable. That includes places that are growing or declining at a steady rate. One way to know if that assumption is valid is to examine how past projections have fared. Figure 17 presents the enrollment projections that I have run for Mansfield since 2001. Last year's projection was 5 students (0.4 percent) above this year's enrollment of 391. The eight other enrollment projections that I did between 2001 and 2009 had one-year error rates that averaged 2.2 percent. The five projections done between 2001 and 2006 had an average five-year error rate of 4.9 percent, which is 0.95 percent annualized.

Last year's projection for Mansfield is running 0.4 percent high. In that analysis, I projected that K-4 enrollment would be 654 students in 2011. The actual enrollment of 662 was 8 students more than projected. The projection was low by 1.2 percent. I projected that enrollment in grades 5-8 would be 586 students in 2011. The actual enrollment of 576 was 10 students less than projected. The projection was high by 1.7 percent. The 2010 projection kept pre-kindergarten enrollment constant at 90 children. The actual enrollment was 87 children.



In my work I have found the cohort-survival method provides estimates that are sufficiently accurate for intermediate-range policy planning. The eight-year planning horizon for school construction grants is at the limit of the useful accuracy of the method. I analyzed the eight-year accuracy of the district projections I ran in 1999. I found for the 66 district-level projections, the 1999 projections had an average error rate of 7.5 percent in predicting 2008 enrollment. The error was less than five percent in 38 percent of the projections and more than 15 percent in 11 percent of the projections. The projections run in 1999 under-estimated the 2008 enrollments by an average of 1.7 percent.

Summary

Total enrollment is projected to remain near the current level for four years, but ultimately decline 10.1 percent from 1,325 in 2011 to about 1,190 students in 2021. Enrollment at your three elementary schools is projected to grow from its current level of 749 to 770 students in 2014 and then decline to about 650 students in 2021. The enrollment at the projection's end will be about 105 students or 14.2 percent below the October 2011 count. Enrollment at the Mansfield Middle School was 576 students in October 2011. I project it will rise to about 635 students in 2018 and then fall to 540 students in 2021. The projected 2021 enrollment is 37 students below the current level, a decline of 6.4 percent.

You do not have to look much further than the pattern of births to understand the decline. In 2002-2006 there were 108 births annually. These children are now in grades K-4. In the 2007-2011 period, there will be 95 births annually; in 2012 to 2016 period, I estimate there will be 87 births annually. This may be somewhat offset in the near-term by the recent high kindergarten yield from births five- and six-years prior.

This 2011 report is projecting higher enrollments compared to the 2010 projection. In last year's report, I estimated there would be 93 births in 2010; there were 92. Births in 2011 are also coming in a little lower than expected. These two combined lowered the estimated births in 2012 and beyond. This was offset by the continued high estimated kindergarten yield from the birth cohort and continued high net immigration. The construction of new houses as well as the sale of existing houses remained low. It is critical to remember at this point that a projection is just a moving forward of recent current trends. These current economic conditions will end. We just don't know when. Despite this uncertainty, I find projections useful because they do answer the question, "What will happen if things remain the same?"

These projections are based upon several key assumptions revolving around the notion that the recent past is a good predictor of the near future. The projection assumes that the following school policies will continue: kindergarten will remain full-day; retention policies will not change and limited enrollment of Mansfield residents in magnet schools. The projection assumes the following population growth factors will not change appreciably: births will average 87 over the 2012 to 2016 period, an 18.5 percent increase between the number of births and subsequent kindergarten enrollment and a student migration of +2.1 percent. Additionally, eight percent of parents will start their children in kindergarten at age six (or have had a special education child held in pre-school for an extra year); there will be 24 new housing units constructed annually and 163 sales of existing homes.

This is an incredibly difficult time to predict future enrollment. A high unemployment rate, economic doldrums and mortgage foreclosures all make conditions today different than a couple of years ago. Mansfield's 7.6 percent unemployment rate in 2010 was up 2.9 percentage points over the past two years and was the highest since these data were reported by the US Department of Labor starting in 1990. These conditions are only a part of the five-year enrollment history that is used to look forward to the next ten years. We have seen the impact on enrollment. We cannot know today how long these conditions will remain, whether they will increase in severity and when they might end. The cohort survival method relies on observed data from the recent past. The method is unresponsive to cyclical change. However, I know of no alternative data-based model that is responsive and produces grade-level data.

This projection should be used as a starting point for local planning. Examine the factors and assumptions underlying the method. You know your community best. Apply your knowledge of the specific conditions in Mansfield and then make adjustments as necessary.

Appendix A. Enrollment Projected By Grade to 2021

School Year	Birth Year	Births ¹	K ²	1	2	3	4	5	6	7	8	PreK	PK-4	5-8	Total
2001-02	1996	115	87	132	136	168	159	177	153	163	175	67	749	668	1417
2002-03	1997	112	122	126	145	138	171	159	172	156	162	59	761	649	1410
2003-04	1998	98	102	143	124	156	143	172	168	176	161	67	735	677	1412
2004-05	1999	98	97	123	143	128	161	141	173	171	173	66	718	658	1376
2005-06	2000	116	117	121	119	139	128	151	139	171	163	66	690	624	1314
2006-07	2001	113	133	127	124	136	145	133	156	144	173	61	726	606	1332
2007-08	2002	111	127	125	129	125	136	144	135	166	148	67	709	593	1302
2008-09	2003	113	117	129	133	136	120	140	143	137	160	63	698	580	1278
2009-10	2004	107	115	112	129	131	132	134	145	143	140	90	709	562	1271
2010-11	2005	102	133	127	123	137	131	147	141	151	146	91	742	585	1327
2011-12	2006	107	139	137	123	128	135	142	141	147	146	87	749	576	1325
Projected															
2012-13	2007	108	141	143	140	127	126	146	143	145	146	96	773	580	1353
2013-14	2008	92	119	145	147	145	125	137	147	147	144	96	777	575	1352
2014-15	2009	94	117	122	149	152	143	136	138	152	146	96	779	572	1351
2015-16	2010	92	112	120	125	154	150	155	137	142	151	96	757	585	1342
2016-17	2011	88	107	115	123	129	152	163	156	141	141	96	722	601	1323
2017-18	2012	89	108	110	118	127	127	165	164	161	140	96	686	630	1316
2018-19	2013	88	106	111	113	122	125	138	166	169	160	96	673	633	1306
2019-20	2014	88	106	109	114	117	120	136	139	171	168	96	662	614	1276
2020-21	2015	87	105	109	112	118	115	130	137	143	170	96	655	580	1235
2021-22	2016	86	104	108	112	116	116	125	131	141	142	96	652	539	1191

¹ 1996 to 2009 births from the State Department of Public Health. Births in 2010 were estimated from recorded in-state births.

Births in 2011 were estimated from in-state births through September in 2010 and 2011. Births in 2012 to 2016 births were estimated from the Connecticut State Data Center projections of children ages 0-4 in Mansfield.

² Based on 2011 counts of births 5- and 6- years ago and retention and phasing into five-year averages in 2015.

Appendix B. Growth from Grade to Grade across Years

October of Year	Grade Moved Into from Prior Year										Average	Estimated Migration ¹
	K	1	2	3	4	5	6	7	8	PreK		
2002	1.089	1.448	1.098	1.015	1.018	1.000	0.972	1.020	0.994		1.073	0.21%
2003	1.041	1.172	0.984	1.076	1.036	1.006	1.057	1.023	1.032		1.047	3.72%
2004	0.990	1.206	1.000	1.032	1.032	0.986	1.006	1.018	0.983		1.028	0.85%
2005	1.009	1.247	0.967	0.972	1.000	0.938	0.986	0.988	0.953		1.007	-2.84%
2006	1.177	1.085	1.025	1.143	1.043	1.039	1.033	1.036	1.012		1.066	4.60%
2007	1.144	0.940	1.016	1.008	1.000	0.993	1.015	1.064	1.028		1.023	2.03%
2008	1.035	1.016	1.064	1.054	0.960	1.029	0.993	1.015	0.964		1.015	-0.12%
2009	1.075	0.957	1.000	0.985	0.971	1.117	1.036	1.000	1.022		1.018	2.11%
2010	1.304	1.104	1.098	1.062	1.000	1.114	1.052	1.041	1.021		1.089	4.55%
2011	1.299	1.030	0.969	1.041	0.985	1.084	0.959	1.043	0.967		1.042	1.09%
5 Year Ave.	1.171	1.009	1.029	1.030	0.983	1.067	1.011	1.033	1.000		1.037	
3 Year Ave.	1.226	1.031	1.022	1.029	0.985	1.105	1.016	1.028	1.003		1.049	
Weighted 5 year Median, past 10 years	1.210	1.027	1.025	1.035	0.984	1.085	1.008	1.031	0.996		1.045	
Enrollment Multiplier		1.027	1.025	1.035	0.984	1.085	1.008	1.031	0.996	1.000	1.024	

¹ Adjusted for non-residents enrolled in Mansfield.